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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,998	06/21/2001	Takemori Takayama	980923A	5046

23850 7590 03/10/2005

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EXAMINER

IP, SIKYIN

ART UNIT PAPER NUMBER

1742

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action Before the Filing of an Appeal Brief</b>	Application No. 09/884,998	Applicant(s) TAKAYAMA ET AL.	
	Examiner Sikyin Ip	Art Unit 1742	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 23 February 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) a set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 25-33.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: Applicants' remarks in page 2, items A and B is noted. Applicants' attention is directed to final rejection page 4, section "Response to Argument." (Also see attached composition for 10B37 alloy steel) Applicants' argument in page 8, third paragraph is noted. But, Figure 8, the core layer between the hardened inner and outer layers contains bainite + ferrite, ferrite, sorbite, martensite + sorbite structures.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
13. ☒ Other: See Continuation Sheet.

**SIKYIN IP  
PRIMARY EXAMINER**

Continuation of 13. Other: 2 pages 10B37 steel composition from  
[http://www.kokura.sumitomometals.co.jp/e/product/sumitomo/01\\_09.html](http://www.kokura.sumitomometals.co.jp/e/product/sumitomo/01_09.html).

## Information on Products

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### Boron steels (representative example)

	Class symbol	C	Si	Mn	P	S	Cr	B	Allowable bar dia (mm) (Where 80% mart hardness is required the center)		
									SCM435 (HRC45)		SCM (HR)
									Water quenched (H=1.0)	Oil quenched (H=0.35)	Water quenched (H=1.0)
Low carbon boron steels	10B21	0.18 ~ 0.23	0.15 ~ 0.30	0.80 ~ 1.10	≤ 0.040	≤ 0.050	-	≥ 0.0005	-	-	≤25φ
	10B22	0.18 ~ 0.23	-	0.70 ~ 1.00	≤ 0.040	≤ 0.050	-	≥ 0.0005	-	-	≤20φ
	ASMN 20B	0.17 ~ 0.23	≤ 0.10	1.10 ~ 1.40	≤ 0.030	≤ 0.030	-	≥ 0.0005	-	-	≤28φ
	15B25	0.22 ~ 0.30	≤ 0.10	0.75 ~ 1.25	≤ 0.035	≤ 0.040	-	≥ 0.0005	-	-	≤32φ
	15B26	0.20 ~ 0.30	≤ 0.10	1.00 ~ 1.50	≤ 0.035	≤ 0.040	-	≥ 0.0005	-	-	≤36φ
	SBR22	0.19 ~ 0.24	≤ 0.35	0.80 ~ 1.10	≤ 0.030	≤ 0.035	0.15 ~ 0.35	≥ 0.0005	-	-	≤28φ
Medium carbon boron steels	S33C +B	0.30 ~ 0.35	0.15 ~ 0.35	0.60 ~ 0.90	≤ 0.030	≤ 0.035	-	≥ 0.0005	≤21φ	≤11φ	-
	10B35	0.32 ~ 0.38	0.15 ~ 0.35	0.60 ~ 0.90	≤ 0.030	≤ 0.035	≤ 0.35	≥ 0.0005	≤23φ	≤13φ	-
	10B37	0.33 ~ 0.39	0.15 ~ 0.35	0.70 ~ 1.00	≤ 0.030	≤ 0.035	≤ 0.35	≥ 0.0005	≤25φ	≤15φ	-
	15B35	0.34 ~ 0.39	0.15 ~ 0.35	0.95 ~ 1.10	≤ 0.030	≤ 0.035	≤ 0.35	≥ 0.0005	≤36φ	≤20φ	-
	10B36	0.32 ~	0.15 ~	1.20 ~	≤ 0.030	≤ 0.035	-	≥ 0.0005	≤40φ	≤23φ	-

		0.37	0.35	1.50						
	15B41	0.36 ~ 0.44	0.15 ~ 0.35	1.35 ~ 1.65	≤ 0.030	≤ 0.035	≥ 0.0005	≤50φ	≤35φ	-
	10B40	0.38 ~ 0.43	0.15 ~ 0.35	0.95 ~ 1.25	≤ 0.030	≤ 0.035	≥ 0.35 0.0005	≤43φ	≤25φ	-
	15B40	0.39 ~ 0.44	0.15 ~ 0.35	1.10 ~ 1.40	≤ 0.030	≤ 0.035	- ≥ 0.0005	≤45φ	≤27φ	-
Alloy boron steel	E202	0.17 ~ 0.23	0.15 ~ 0.35	1.10 ~ 1.45	≤ 0.030	≤ 0.035	0.40 ~ 0.75 ≥ 0.0005	-	-	≤25φ
	SBR23	0.20 ~ 0.25	≤ 0.35	0.70 ~ 1.00	≤ 0.030	≤ 0.035	0.70 ~ 0.90 ≥ 0.0005	-	-	≤36φ
	51B30	0.28 ~ 0.33	0.15 ~ 0.35	0.70 ~ 0.90	≤ 0.030	≤ 0.035	0.80 ~ 1.10 ≥ 0.0005	≤38φ	≤22φ	-
	51B40	0.38 ~ 0.43	0.15 ~ 0.35	0.70 ~ 0.90	≤ 0.030	≤ 0.035	0.70 ~ 0.90 ≥ 0.0005	≤50φ	≤30φ	-
	SCR 440B	0.37 ~ 0.44	0.15 ~ 0.35	0.55 ~ 0.90	≤ 0.030	≤ 0.035	0.85 ~ 1.25 ≥ 0.0005	≤55φ	≤33φ	-
	SUP11	0.50 ~ 0.60	0.15 ~ 0.35	0.65 ~ 0.95	≤ 0.030	≤ 0.035	0.65 ~ 0.95 ≥ 0.0005	-	-	-
	51B60	0.55 ~ 0.65	0.15 ~ 0.35	0.65 ~ 1.10	≤ 0.030	≤ 0.035	0.60 ~ 1.00 ≥ 0.0005	-	-	-

| Characteristics and Kinds of Products | Main Products and Their Application (Steel Bars  
 | Main Products and Their Application (Wire Rods and Bar in Coil) |  
 | Main Products and Their Application (Large-Sized Steels for Forging) |  
 | General Standards for Commercial Steels | Sumitomo Standards for Commercial Steels